



Fact Sheet

GTRI: More Than Two and a Half Successful Years of Reducing Nuclear Threats

Significant Accomplishments from 2004 through February 2007

On May 26, 2004, the National Nuclear Security Administration established the Global Threat Reduction Initiative. GTRI, as it is known, works to identify, secure, remove and/or facilitate the disposition of high risk vulnerable nuclear and radiological materials around the world, as quickly as possible, that pose a threat to the United States and the international community.

Since May 2004 and through February 2007, GTRI has removed more than nine nuclear bombs worth of highly enriched uranium and secured more than 470 radiological sites around the world containing over 7.7 million curies, enough for approximately 7,700 dirty bombs.

Since its inception, GTRI has accelerated its nuclear security efforts and made significant progress to reduce the risk posed by vulnerable civilian nuclear and radiological materials, which could be used by terrorists to make an improvised nuclear device or a radiological dispersal device (dirty bomb).

GTRI's specific accomplishments to reduce the threat from both nuclear and radiological materials since May 2004 include:

Nuclear Material Threat Reduction

Accelerated conversion of research reactors from the use of highly enriched uranium to low enriched uranium

- Prior to the creation of GTRI, only two research reactors were converted during the four-year period from 2000 to 2004. The last U.S. research reactor was converted in 2000 and the last international research reactor was converted in 2004.
- In the past twelve months, **six research reactors** have been converted to operate with low enriched uranium (LEU) instead of using highly enriched uranium (HEU), which can be used to make a nuclear weapon.
 - The six research reactors that have been converted to LEU are:
 - The VR-1 Sparrow research reactor at the Czech Technical University in Prague. (This conversion in October 2005 was the first time a Russian-supplied research reactor was converted to LEU);
 - The HFR Petten reactor in the Netherlands converted in October 2005;
 - The IRT critical assembly in Libya converted in January 2006;

- The 1-megawatt TRIGA reactor at Texas A&M University converted in late September 2006;
 - The University of Florida Training Reactor converted in late September 2006; and
 - The Russian-supplied IRT-1 research reactor at the Tajoura facility in Libya converted in late October 2006.
- An additional HEU research reactor, the ULYSSE reactor in France, was shutdown in February 2007 without converting.

Accelerated removal of Russian-origin HEU fresh and spent fuel

- In the two years prior to the creation of GTRI, only four shipments to remove Russian-origin research reactor fuel took place.
- Since May 2004, GTRI has significantly increased the number of shipments to return Russian-origin research reactor fuel. **Eleven shipments** have successfully taken place to remove and return to Russia more than 400 kilograms of Russian-origin HEU since the creation of GTRI.
 - **HEU Fresh Fuel:** Seven shipments to remove and return 337 kilograms of Russian-origin HEU fresh fuel have taken place since 2004. These shipments include the return of nuclear material to Russia from:
 - The Institute of Nuclear Physics in Uzbekistan in September 2004;
 - The Rez facility in the Czech Republic in December 2004;
 - The Salaspils facility in Latvia in May 2005;
 - The Czech Technical University in the Czech Republic in September 2005;
 - The Tajoura research reactor in Libya in July 2006;
 - The Maria research reactor in Poland in August 2006; and
 - The Rossendorf facility in former East Germany in December 2006.
 - **HEU Spent Fuel:** Four shipments to remove and return 63 kilograms of Russian-origin HEU spent fuel from the Institute of Nuclear Physics in Uzbekistan took place from January to April 2006.
- As a result of the Bratislava Joint Statement on Nuclear Security Cooperation issued by Presidents Bush and Putin in February 2005, GTRI has developed an overall prioritized accelerated schedule of shipments.
 - In accordance with this accelerated schedule, GTRI removed 286 kilograms of Russian-origin HEU fresh fuel from a former East German civilian nuclear facility at Rossendorf in December 2006. This was **GTRI's single largest shipment ever** and it was more material than had been removed under the entire program previously.

Removal of U.S.-origin research reactor spent fuel

- Since 2004, more than 190 kilograms of U.S.-origin HEU in spent research reactor nuclear fuel was returned to the United States from Australia, Germany, Austria, Greece, Japan, Argentina, the Netherlands and Sweden.

Removal of “Gap” Material

- Significant progress has been made to secure nuclear material that was not covered by other pre-existing nuclear material threat reduction programs. This material is referred to as “gap” material.
- More than 100 kilograms of U.S.-origin HEU fresh material was safely returned in two shipments from Canada, Belgium and the Netherlands.
- In addition, in coordination with GTRI, and as a way to encourage collaboration with the private sector, AREVA recently signed contracts for the recovery of more than 85 kilograms of U.S.-origin HEU from several facilities within Europe.

Radiological Threat Reduction

- Physical protection upgrades have been completed in over 40 countries at more than 520 radiological sites, including industrial, medical, and commercial facilities. Since May 2004, GTRI secured more than 470 vulnerable radiological sites around the world containing over 7,700,000 curies - enough for approximately 7,700 dirty bombs.
- In the United States, since May 2004, GTRI removed over 4,000 at-risk radiological sources totaling 82,500 curies - enough for more than 80 dirty bombs.

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